

## HEAT PUMPS

Resource Contact: Coordination and Hydrology Section

Effective Date: 6-10-92

Revised: New

Purpose: To provide guidance to program personnel in the management of water use associated with heat pumps.

Application: This policy applies to all water right applications and applications for change of water right received pursuant to chapter 90.03 RCW.

1. Heat pump water use is a beneficial use

The use of water as either a source of heat or to dissipate heat is a beneficial use of water.

2. Water rights and heat pumps

A water right permit is required for heat pumps that use:

- Surface water,
- Ground water in conjunction with single or group domestic uses exceeding 5,000 gallons per day, and
- Ground water in conjunction with industrial uses exceeding 5,000 gallons per day.

The 5000-gallon per day threshold requiring a permit is not an annual average value. Many small heat pump systems may operate on less than 5000 gallons per day for most of the year. However, if the peak day water use would exceed 5000 gallons per day of ground water, a permit is required.

Applications for heat pump water use will be considered in the same manner as other water right requests.

3. Classification of water use

A. Single Domestic, Group Domestic, or Industrial

The use of water in a heat pump associated with a single domestic residence will be classified as single domestic use.

The use of water in a heat pump associated with either a group of domestic residences or in conjunctive use with a group domestic use shall be classified as group domestic.

The use of water in a heat pump associated with an industrial or commercial interest shall be classified as industrial.

B. Consumptive or Nonconsumptive

Classification of water use in a heat pump shall be in agreement with POL-1020, Consumptive and Nonconsumptive water use.

System configuration to ensure a nonconsumptive use of water is preferred. While return water injection or infiltration is not required, it is to be encouraged of the applicant.

In water short regions or where the issuance of a consumptive water right might cause impairment of existing rights, system configuration to ensure nonconsumptive water use can be required.

4. Special considerations for groundwater reinjection

Discharges to aquifers other than the source aquifer will not be allowed under the nonconsumptive classification.

A judgement as to the ability of the source aquifer to accept discharge water and not create wet areas through ground water mounding shall be made.

An injection well shall be designed to accept discharge water in an efficient manner at the same rate of flow as that produced by the source and consider the decreasing efficiency of the injection well over time.

5. Coordination with water quality program

The Water Quality Program has an adopted policy on heat pumps, Water Quality No. 17, adopted September 1987.

If an applicant proposes or we may require injection or infiltration of ground water withdrawn for use in a heat pump, the permit writer shall contact the Water Quality program and ensure that an injection well permit (see chapter 173-218 WAC) can be obtained and that the applicant has applied for the same if necessary.

Water right and water quality reviews should be conducted concurrently.

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Water Resources Program

**Special Note:** These policies and procedures are used to guide and ensure consistency among water resources program staff in the administration of laws and regulations. These policies and procedures are not formal administrative regulations that have been adopted through a rule-making process. In some cases, the policies may not reflect subsequent changes in statutory law or judicial findings, but they are indicative of the department's practices and interpretations of laws and regulations at the time they are adopted. If you have any questions regarding a policy or procedure, please contact the department.